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EXAMINER

BOYD, JONATHAN A

ART UNIT	PAPER NUMBER
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2629

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,266	Applicant(s) ZHOU ET AL.	
	Examiner JONATHAN BOYD	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed October 20th 2009 have been fully considered but they are not persuasive. The Examiner respectfully disagrees with Applicant's assertion on Page 10 and 11 of the Remarks that Zehner must teach gray scale transitions of character inputs in an electrophoretic display. The Examiner agrees that Zehner is different from the instant application when comparing the full disclosure of each application, however, the current claims of the instant application are not yet fully revealing the intended disclosure as argued in the Remarks. In fact within the current claim language, gray scale is not mentioned at all. Therefore an update from white to black as taught by Zehner reads on the current independent claim's disclosure of an "image update".

Further on Page 11, the Examiner respectfully disagrees with the Applicant's assertion that Zehner does not teach updating additional pixels in addition to updating the first pixel. On the contrary, Zehner teaches updating multiple pixels in localized area as restated on page 10 of Applicant's Remarks. Therefore, before step (c) is completed, other pixel areas may have been updated prior to the completion of the transitioning first set of pixels. As far as the newly amended independent claims are concerned, steps (d)-(f) are merely stating that steps (a)-(c) are being performed on plural pixels at the same time.

The Examiner would like to point out that a unique invention is evident by use of the example shown on Page 12-13, using the word "TRAVEL" transitioning between 4

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different optical states over plural “staggering” update periods, however the limitations which make this example unique, have not yet been claimed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 8-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Zehner et al (WO 2003/044765) (herein “Zehner”).

In regards to claim 1 and 16, Zehner teaches an addressing method and system for updating an electrophoretic display (*See; page 55, third paragraph: “the areas of the image which need rewriting...”*) for use with interactive applications (*See; page 55, lines 25-27*), the method comprising: receiving drawing information for at least one electrophoretic pixel in the electrophoretic display (*inherently taught*); determining at least one drawing-mode waveform for the at least one electrophoretic pixel in the electrophoretic display based on the received drawing information (*See; page 55, third paragraph: fast updating for character input, slow updating for gray to gray transitions*); and applying the at least one drawing-mode waveform a predetermined number of times (*can read on 1*) to complete an image update onto the at least one electrophoretic pixel in the electrophoretic display (*See; page 55, third paragraph: “the areas of the image which need rewriting...”*) and prior to the completion of the image update for the

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at least one electrophoretic pixel at said step (c): receiving drawing information for at least one additional electrophoretic pixel in the electrophoretic display, determining at least one drawing-mode waveform for the at least one additional electrophoretic pixel in the electrophoretic display based on the received drawing information for the at least one additional electrophoretic pixel in the electrophoretic display; applying the at least one drawing-mode waveform a predetermined number of times to complete an image update onto the at least one additional electrophoretic pixel in the electrophoretic display (*See Page 55, where Zehner teaches updating plural pixels at the same time*).

In regards to claim 2, Zehner inherently teaches wherein the received drawing information includes a keyboard input (*See; page 55, line 22 where character input is referred too, which typically comes from a keyboard*).

In regards to claim 3, Zehner inherently teaches wherein the keyboard input is received from one of a keyboard or a keypad (*See; page 55, line 22 where character input is referred too, which typically comes from a keyboard*).

In regards to claim 8, Zehner teaches wherein determining the at least one drawing-mode waveform includes: selecting the drawing-mode waveform from a set of stored driving waveforms based on the drawing information and a current optical state of at least one electrophoretic pixel in the portion of the electrophoretic display (*See; page 20, paragraph 3 where multiple waveforms are selected using lookup tables in*

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dependence on the current optical state of the pixels).

In regards to claim 9, Zehner teaches wherein the drawing-mod waveform is selected from a lookup table (*See; page 20, paragraph 3 where multiple waveforms are selected using lookup tables in dependence on the current optical state of the pixels).*

In regards to claim 10, Zehner inherently teaches wherein addressing the portion of the electrophoretic display includes: applying the determined drawing-mode waveform a predetermined number of times to write an image onto at least one electrophoretic pixel in the electrophoretic display (*See; Page 21, last paragraph and page 55, third paragraph).*

In regards to claim 11, Zehner teaches wherein addressing the portion of the electrophoretic display includes: writing pixel data onto at least one electrophoretic pixel in the portion of the electrophoretic display (*See; Page 21, last paragraph).*

In regards to claim 12 and 17, Zehner teaches storing pixel information based on the received drawing information; and addressing the portion of the electrophoretic display based on the stored pixel information (*See; Page 21, last paragraph for repetitive addressing of the pixel using a counter for that specific pixel. The counter corresponding to "stored pixel information" and updated at each addressing period).*

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In regards to claim 13, Zehner teaches wherein the stored pixel information includes at least one of the groups consisting of a pixel index, a pixel color level, a pixel coordinate, and a pixel counter (*See; Page 21, last paragraph for repetitive addressing of the pixel using a counter for that specific pixel. The counter corresponding to “stored pixel information” and updated at each addressing period*).

In regards to claim 14 and 18, Zehner teaches updating the stored pixel information when the portion of the electrophoretic display is addressed (*See; Page 21, last paragraph for repetitive addressing of the pixel using a counter for that specific pixel. The counter corresponding to “stored pixel information” and updated at each addressing period*).

In regards to claim 15, Zehner teaches addressing a first set of pixels in the electrophoretic display based on the received drawing information and the drawing-mode waveform; and addressing a second set of pixels in the electrophoretic display based on the received drawing information and a second drawing-mode waveform; wherein the second drawing-mode waveform is applied to the second set of pixels prior to completion of an image update for the first set of pixels (*See; Page 21, last paragraph for repetitive addressing of the pixel using a counter for that specific pixel. The counter corresponding to “stored pixel information” and updated at each addressing period. Also different pixels can be updated in an asynchronous manner, meaning that different pixels are in a different transition state*).

In regards to claim 19, Zehner teaches an electrophoretic display (*See, Fig. 1, element 26*), comprising: an electrophoretic pixel array disposed on a backplane (*inherent*); a row driver electrically connected to a set of rows of the electrophoretic pixel array (*See; Fig. 2, element 22*); a column driver electrically connected to a set of columns of the electrophoretic pixel array (*See; Fig. 2, element 24*); and a controller electrically connected to the row driver and the column driver (*See; Figure 2, element 16b*); wherein the controller determines at least one drawing-mode waveform based on drawing information (*See; page 55, third paragraph: fast updating for character input, slow updating for gray to gray transitions*); and wherein the controller addresses a portion of the electrophoretic display based on the drawing information and the drawing-mode waveform to write an image onto at least one electrophoretic pixel in the electrophoretic display (*See; page 55, third paragraph: "the areas of the image which need rewriting..."*).

In regards to claim 20, Zehner teaches wherein the controller receives drawing information for the portion of the electrophoretic display (*See; Fig. 1 where the controller 16 receives drawing information for updating the display across data line 14*).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Zehner et al (WO 2003/044765) (herein "Zehner").

In regards to claims 4 and 5, Zehner teaches character input (*See; Page 55, line 22*). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a drawing input or touch screen to teach character input.

In regards to claims 6 and 7, Zehner teaches character input (*See; Page 55, line 22*). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a pointer input and mouse to teach character input.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN BOYD whose telephone number is (571)270-7503. The examiner can normally be reached on Mon - Fri 6:00 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. B./
Examiner, Art Unit 2629

/Amr Awad/
Supervisory Patent Examiner, Art Unit 2629